

Case report 490

Joseph A. Buckwalter, M.D.¹, Michael M. Bonfiglio, M.D.², George El-Khoury, M.D.¹,
and Charles C. Platz, M.D.³

Departments of ¹ Orthopaedics, ² Radiology and ³ Pathology, University of Iowa Hospitals, Iowa City, Iowa, USA



Fig. 1. Anteroposterior roentgenogram of the innominate bones shows an expanding lytic lesion affecting the left superior pubic ramus. The zone of transition around the lesion is relatively narrow. The lesion extends from the pubic symphysis to the acetabulum

Fig. 2. A ^{99m}Tc phosphate bone scan shows increased uptake by the lesion in the left superior pubic ramus

Fig. 3. A computed tomographic section through the superior pubic rami shows the expanding lesion of the left superior pubic ramus extending to the acetabulum

Clinical information

A 33-year-old man complained of mild left groin pain following an automobile accident. Physical examination demonstrated mild tenderness over the left superior pubic ramus and pubic symphysis and a full range of hip motion. Laboratory studies, including complete blood count, erythrocyte sedimentation rate, serum alkaline phosphatase, serum calcium, and serum phosphate, were normal. Plain radiographs of the pelvis demonstrated an expan-

sile lesion of the left superior pubic ramus (Fig. 1). Subsequent questioning revealed that the patient had noted intermittent pain in the left hip and groin for a period of three years prior to his accident. A technetium radioisotope bone scan showed increased uptake in the region of the left superior pubic ramus (Fig. 2) and computed tomography showed extension of the lesion from the pubic symphysis to the acetabulum (Fig. 3). Needle aspiration of the lesion demonstrated blood and scattered giant cells. The differential diagnosis included giant cell tumor and aneurysmal bone cyst.

A surgical procedure was performed.

Address reprint requests to: Joseph Buckwalter, M.D., Orthopaedics Department, University of Iowa College of Medicine, Iowa City, IO 52242, USA

Diagnosis: Monostotic fibrous dysplasia of the pubis

An anterior approach to the left superior pubis ramus revealed multiple fractures in an egg-shell-thin anterior cortex. Removal of this bony shell exposed a firm, rubbery, gritty tissue filling the medullary cavity. Treatment consisted of removing the lesion followed by curettage of the posterior cortex of the superior pubic ramus extending to the subchondral cortex of the acetabulum.

Over the next twenty months, plain radiographs showed progressive healing of the lesion with new bone formation (Fig. 4). The patient was asymptomatic and returned to full activities.

Histologically the lesion consisted of variably cellular fibrous tissue with scattered large vascular spaces (Fig. 5), hemorrhage and areas of new bone formation (Fig. 6). In some areas the fibroblasts were haphazardly oriented, in others they formed faintly defined fascicles or whorls. Occasional clusters of giant cells (Fig. 7) foamy macrophages (Fig. 8) and iron-containing macrophages were also evident. The lesion was considered to be fibrous dysplasia.

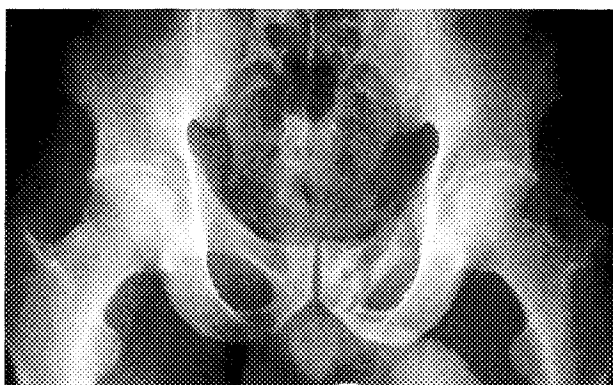


Fig. 4. An anteroposterior roentgenogram of the pelvis 20 months after surgical removal of the lesion shows bony healing of the left superior pubic ramus

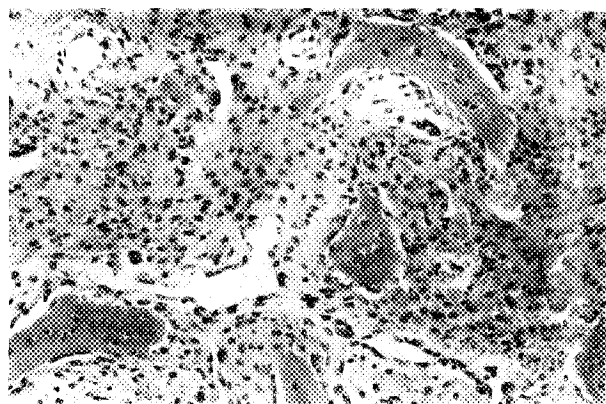


Fig. 6. Another photomicrograph from the same specimen (intermediate power - HE), shows new bone formation focally, with a few small vascular spaces within the dense fibrous tissue

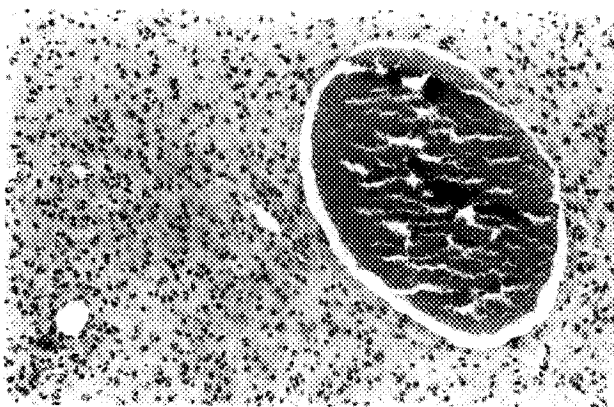


Fig. 5. This light photomicrograph (low power - HE) shows fibrous tissue that formed most of the lesion and one of the large vascular channels present

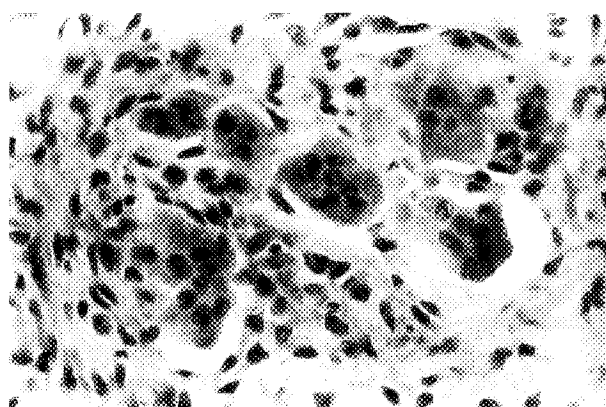


Fig. 7. Another photomicrograph (high power - HE) shows a cluster of giant cells, rare in the specimen

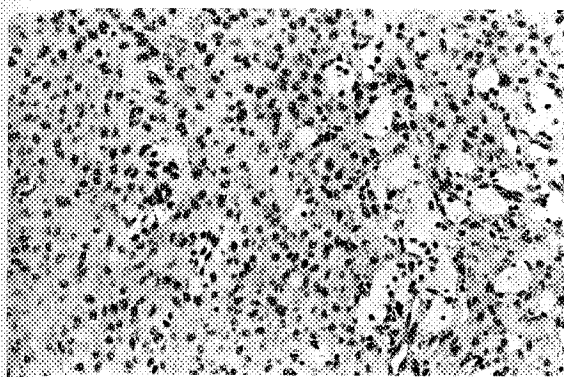


Fig. 8. Another photomicrograph (low power - HE) shows the background fibrous structure to be evident in an area containing foamy macrophages

Discussion

Fibrous dysplasia may affect one or many bones and frequently expands and weakens the bone [1-3]. In many patients, a pathological fracture or bone pain is the first sign of the disease. Fibrous dysplasia can produce a wide variety of radiographic appearances depending on the location of the lesion and the relative proportions of fibrous tissue and bone within the lesion [4, 5]. Despite the variable appearance, the diagnosis of fibrous dysplasia can usually be made from plain radiographs. In this patient, the lesion expanded the involved bone, as shown on the plain roentgenograms and computed tomography section (Fig. 1 and 3). Giant cell tumors and aneurysmal bone cysts frequently cause similar expansion of the involved bone. Histologically, spicules of immature bone embedded in a fibrous stroma characterize fibrous dysplasia. Lesions vary considerably in the amount of bone formation. In some examples, immature bone appears to be the dominant feature, while in others it may be absent. In the vicinity of extravasated blood or hemorrhage, collections

of giant cells and/or foamy macrophages may be present. The lesion in this patient consisted primarily of fibrous tissue. It contained a relatively large number of vascular channels, clusters of smaller ones in some areas, very little bone and a few clusters of giant cells and macrophages. Needle aspiration showed blood and giant cells from the lesion but not the predominant fibrous tissue. In spite of these pathological features the findings are entirely consistent with fibrous dysplasia.

In *summary*, an expansile lesion of the superior pubic ramus in a 32 year old man was discovered incidentally when roentgenograms were obtained to assess the possibility of fracture following an automobile accident. A technetium scan showed increased uptake in the lesion and computed tomography showed expansion of the superior pubic ramus and extension of the lesion from the pubic symphysis to the acetabulum. A needle aspirate of the lesion consisted of blood and giant cells. Based on the appearance of the lesion and the needle aspirate a preliminary diagnosis of giant cell tumor or aneurysmal bone cyst was made. When examined at the time of operation, the lesion was found to be firm and gritty. It was removed and the remaining bone surfaces curetted. Histological examination showed a pattern most consistent with fibrous dysplasia. The pubic ramus healed uneventfully.

References

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